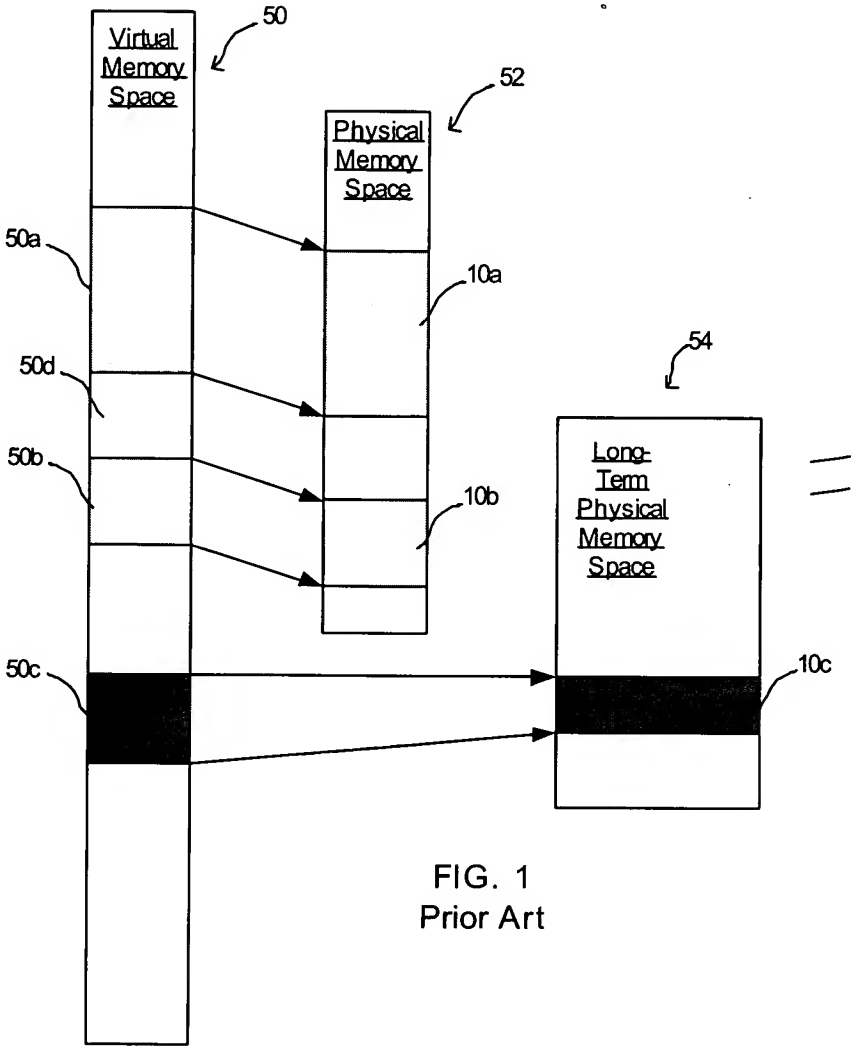


FIG. 1
Prior Art

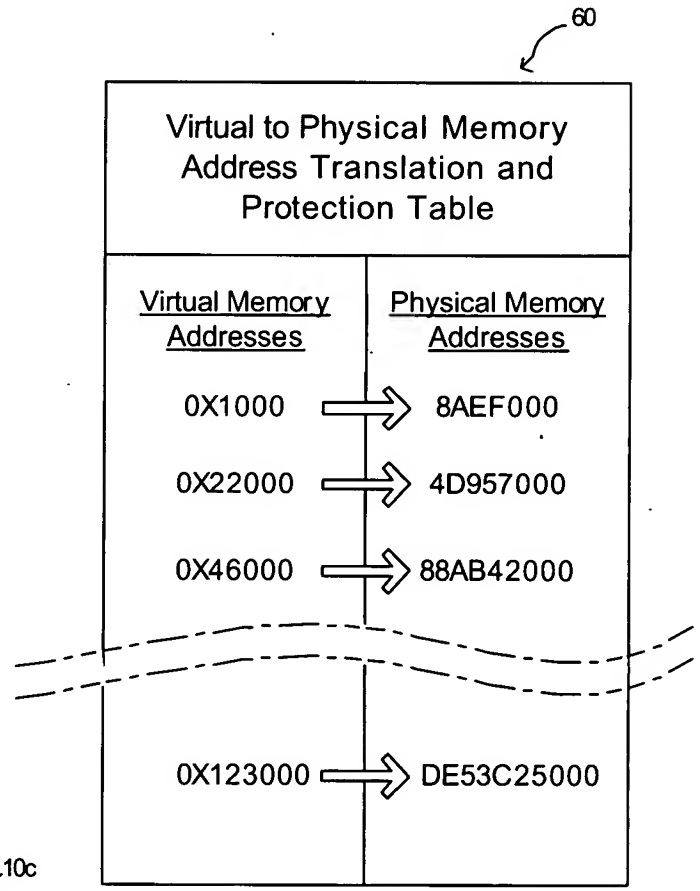


FIG. 2
Prior Art

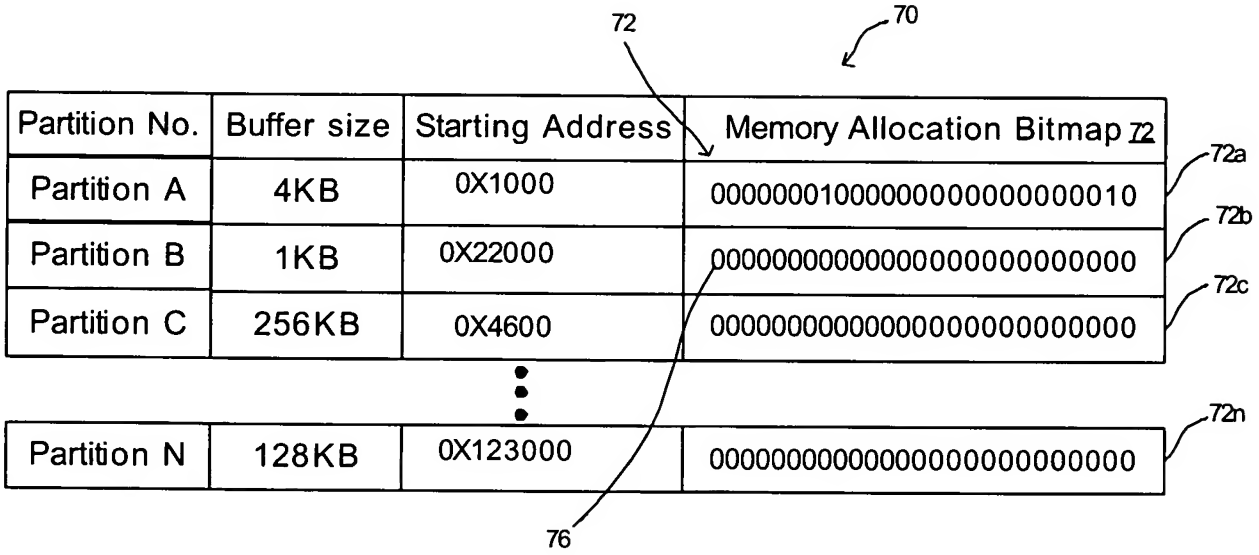
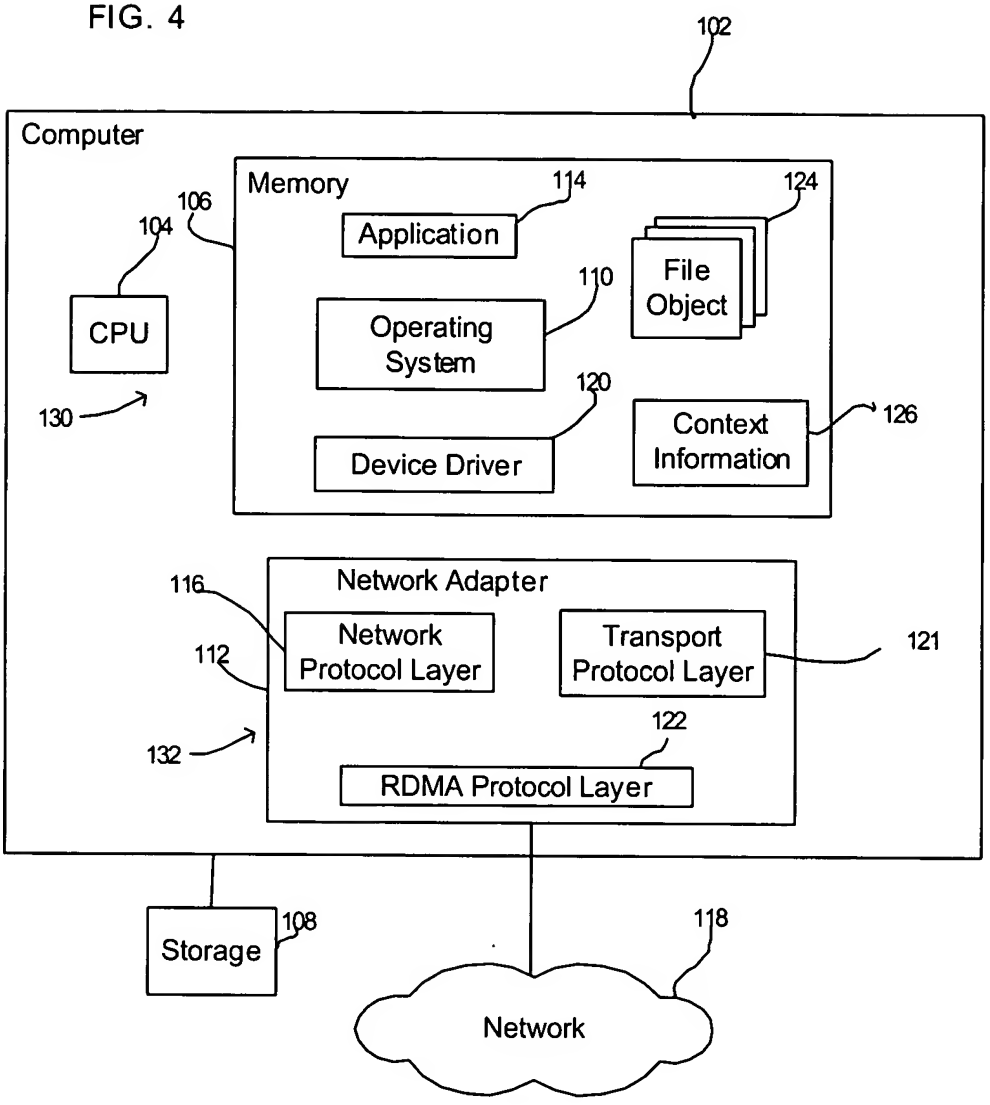


FIG. 3
Prior Art

FIG. 4



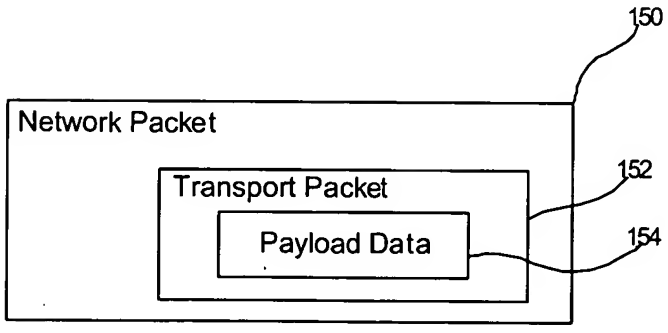


FIG. 5
Prior Art

BEST AVAILABLE COPY

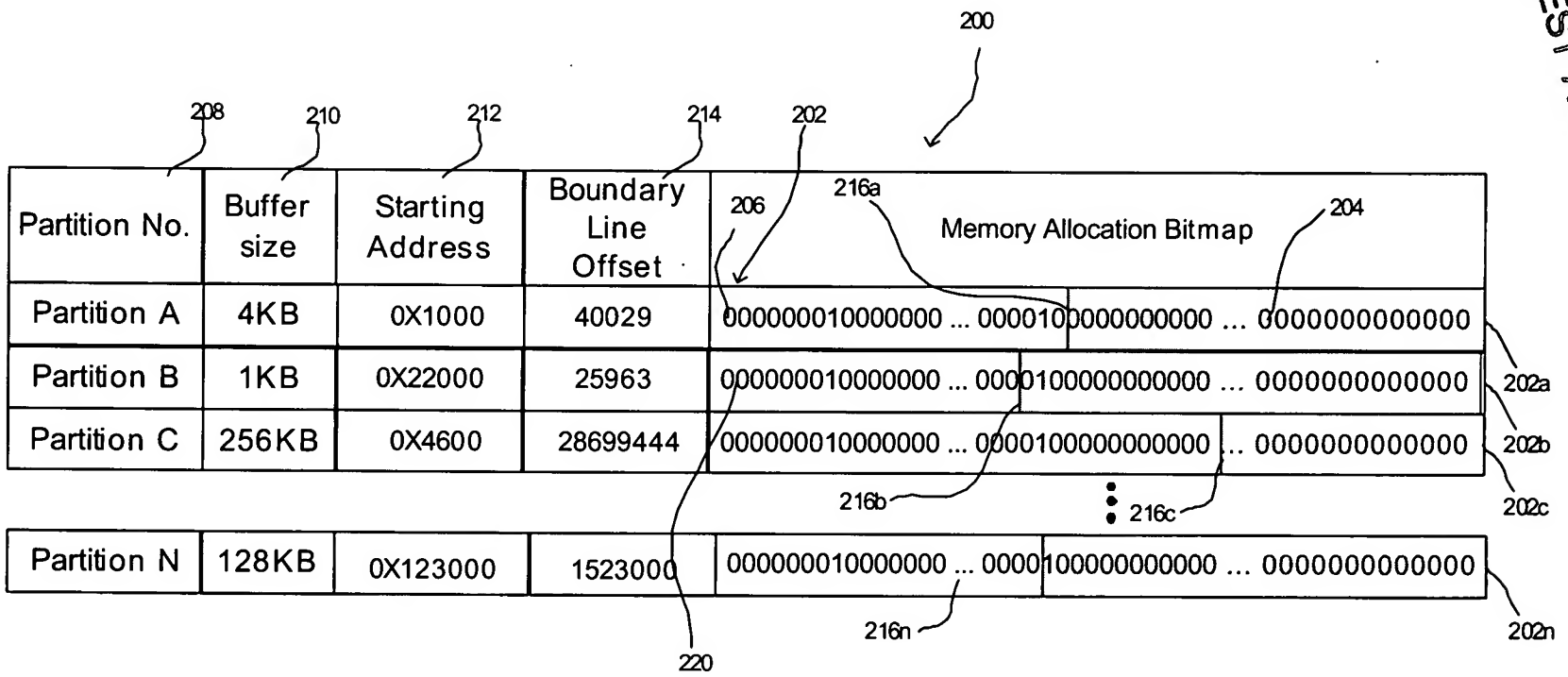


FIG. 6

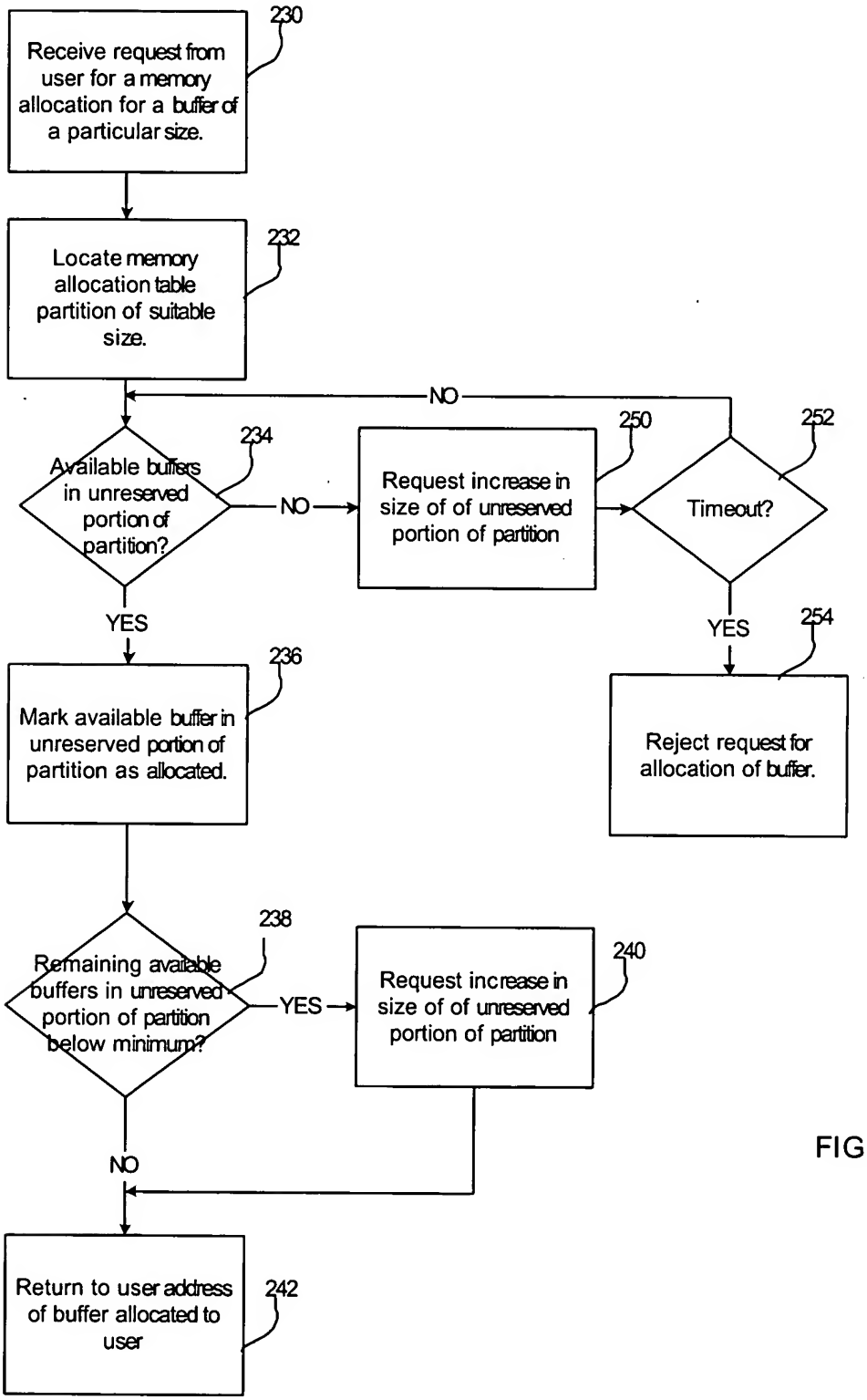

230
Receive request from user for a memory allocation for a buffer of a particular size.
232
Locate memory allocation table partition of suitable size.
NO
234
Available buffers in unreserved portion of partition?
NO
250
Request increase in size of of unreserved portion of partition
252
Timeout?
YES
254
Reject request for allocation of buffer.
YES
236
Mark available buffer in unreserved portion of partition as allocated.
238
Remaining available buffers in unreserved portion of partition below minimum?
YES
240
Request increase in size of of unreserved portion of partition
NO
242
Return to user address of buffer allocated to user

FIG. 7

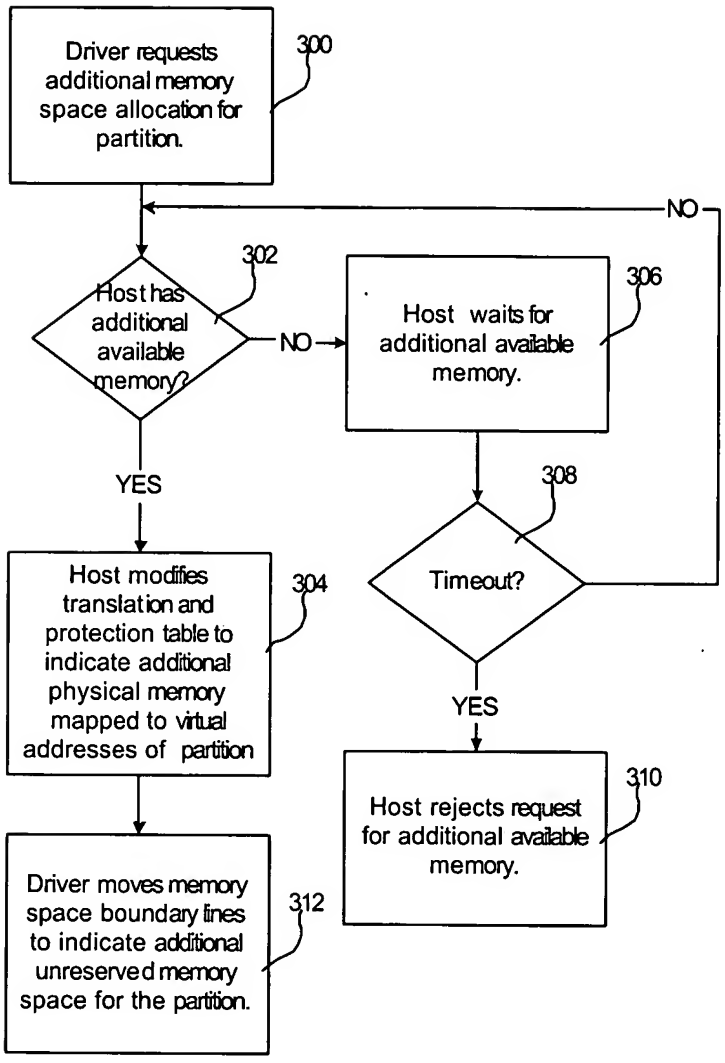

Driver requests additional memory space allocation for partition.
300
Host has additional available memory?
302
NO
Host waits for additional available memory.
306
YES
Timeout?
308
NO
YES
Host modifies translation and protection table to indicate additional physical memory mapped to virtual addresses of partition
304
Host rejects request for additional available memory.
310
Driver moves memory space boundary lines to indicate additional unreserved memory space for the partition.
312

FIG. 8

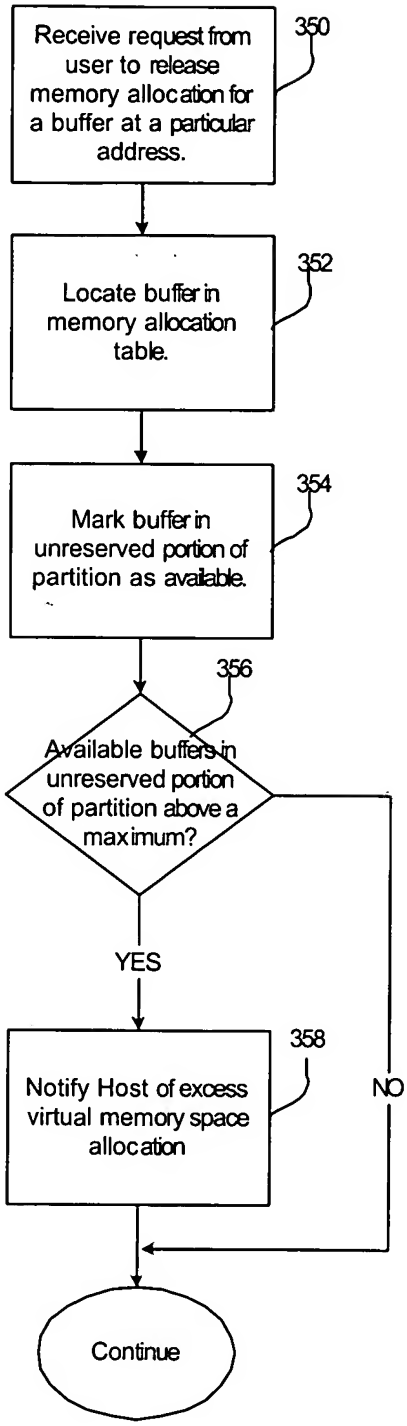

Receive request from user to release memory allocation for a buffer at a particular address.
350
Locate buffer in memory allocation table.
352
Mark buffer in unreserved portion of partition as available.
354
Available buffers in unreserved portion of partition above a maximum?
356
YES
NO
Notify Host of excess virtual memory space allocation
358
Continue

FIG. 9

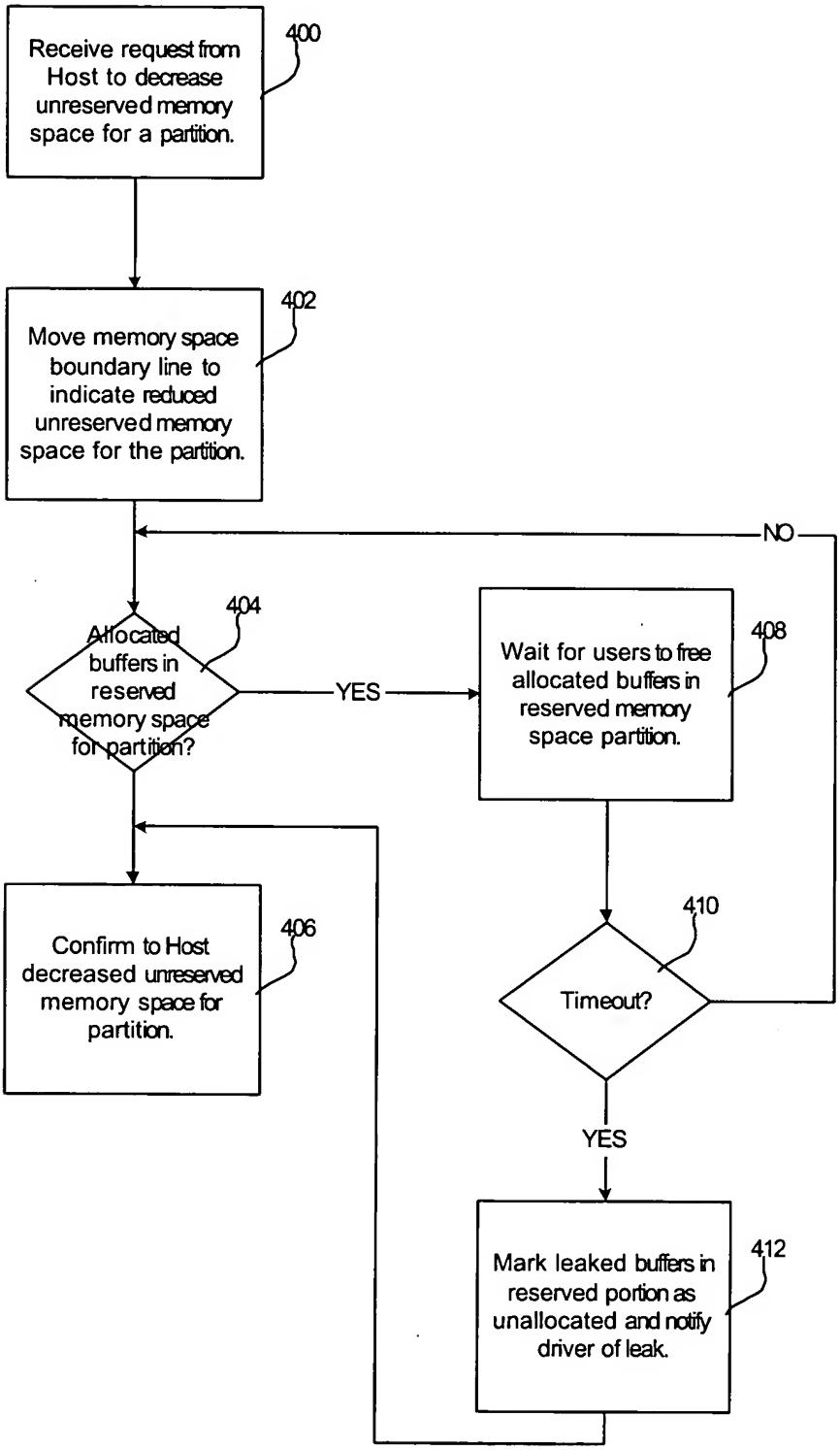

Receive request from Host to decrease unreserved memory space for a partition.
400
Move memory space boundary line to indicate reduced unreserved memory space for the partition.
402
NO
Allocated buffers in reserved memory space for partition?
404
YES
Wait for users to free allocated buffers in reserved memory space partition.
408
Confirm to Host decreased unreserved memory space for partition.
406
Timeout?
410
YES
Mark leaked buffers in reserved portion as unallocated and notify driver of leak.
412

FIG. 10

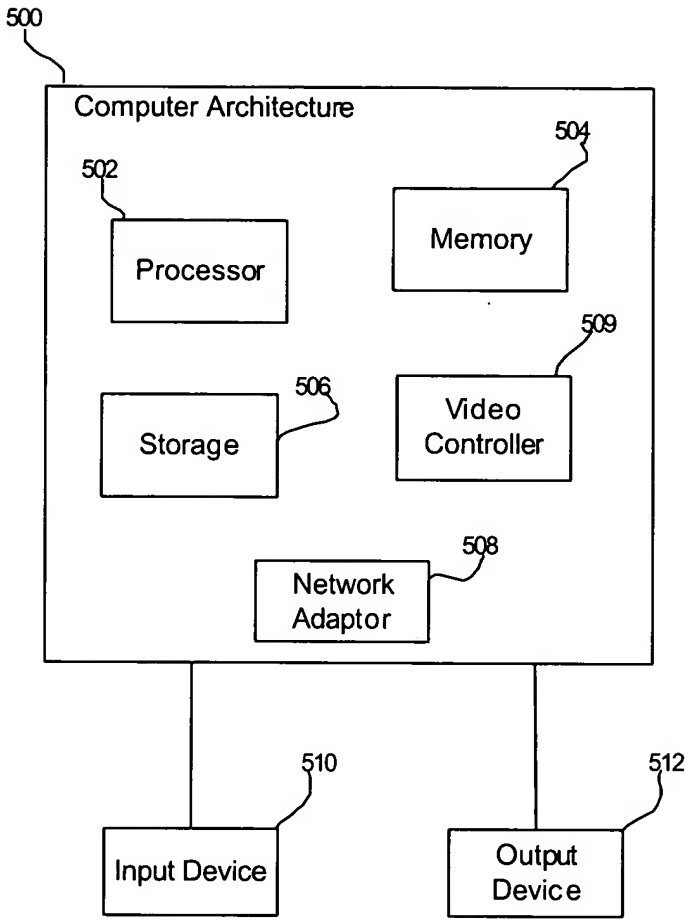

500
Computer Architecture
502
Processor
504
Memory
506
Storage
509
Video Controller
508
Network Adaptor
510
Input Device
512
Output Device

FIG. 11